Master List of GLOBE Protocols*

This is a comprehensive list of the GLOBE protocols (measurements) that illustrates the time investment required. The protocols are arranged by investigation area.

Investigation Area	**Recommended Measurement Frequency Range**							**Source of Materials**		
Atmosphere	Daily	Weekly	Monthly	Seasonally	Semi-Annually	Annually	Once per site	Print	CD	Web
Instrument Construction, Site Selection & Setup							X	X	X	X
Cloud Protocols	X							X	X	X
Aerosol Protocol	X							X	X	X
Water Vapor Protocol	X							X	X	X
Optional Barometric Pressure Protocol	X								X	X
Relative Humidity Protocol	X							X	X	X
Precipitation Protocols (based on local precipitation)	X	X	X	X				X	X	X
Maximum, Minimum, and Current Temperature Protocol	X							X	X	X
Digital Maximum/Minimum Soil & Air Temperatures Protocol	X	X						X	X	X
Automated Soil & Air Temperature Monitoring Protocol		X	X						X	X
Surface Temperature Protocol	X							X	X	X
Surface Ozone Protocol	X							X	X	X
Automated Weather Station Protocols		X							X	X
AWS WeatherNet Protocol							X		X	X

Investigation Area	**Recommended Measurement Frequency**							**Source of Materials**		
Hydrology	Daily	Weekly	Monthly	Seasonally	Semi-Annually	Annually	Once per site	Print	CD	Web
Instrument Construction, Site Selection & Sampling Procedures							X	X	X	X
Water Transparency Protocol		X						X	X	X
Water Temperature Protocol		X						X	X	X
Dissolved Oxygen Protocol		X						X	X	X
Electrical Conductivity Protocol		X						X	X	X
Salinity Protocols		X						X	X	X
Water pH Protocol		X						X	X	X
Alkalinity Protocol		X						X	X	X
Nitrate Protocol		X						X	X	X
Freshwater Macroinvertebrates		X						X	X	X
Optional Salinity Titration		X							X	X
Marine Macroinvertebrates				X					X	X

* Source: GLOBE Teachers' Guide

Investigation Area	Recommended Measurement Frequency Range							Source of Materials		
Soil	Daily	Weekly	Monthly	Seasonally	Semi-Annually	Annually	Once Per Site	Print	CD	Web
Selecting, Exposing, and Describing a Soil Characterization Site							X	X	X	X
Soil Characterization Protocol							X	X	X	X
Soil Temperature Protocol	X	X		X				X	X	X
Automated Soil & Air Temperature Monitoring Protocol		X	X						X	X
Digital Maximum/Minimum Soil & Air Temperature Protocol	X	X							X	X
Digital Multi-Day Soil Temperatures Protocol		X							X	X
Gravimetric Soil Moisture Protocol	X	X	X	X				X	X	X
Soil Moisture Sensor Protocol	X							X	X	X
Bulk Density Protocol							X		X	X
Soil Particle Density Protocol							X	X	X	X
Particle Size Distribution Protocol							X	X	X	X
Soil pH Protocol							X	X	X	X
Soil Fertility Protocol							X	X	X	X
Water Infiltration Protocol				X					X	X
Davis Soil Moisture/Temperature Station Protocol		X	X						X	X

Investigation Area	Recommended Measurement Frequency Range							Source of Materials		
Land Cover	Daily	Weekly	Monthly	Seasonally	Semi-Annually	Annually	Once Per Site	Print	CD	Web
Site Selection & Investigation Instruments							X	X	X	X
Land Cover Sample Site Protocol							X	X	X	X
* Biometry Protocol					X			X	X	X
* Manual Land Cover Mapping Protocol							X	X	X	X
* Computerized MultiSpec Land Cover Mapping Protocol							X		X	X
* Land Cover Change Detection Protocol							X		X	X
Fire Fuel Ecology							X		X	X

* Ongoing activities until study site is completely mapped

Investigation Area	Recommended Measurement Frequency Range							Source of Materials		
GPS	Daily	Weekly	Monthly	Seasonally	Semi-Annually	Annually	Once Per Site	Print	CD	Web
GPS Measurement Protocol							X	X	X	X
GPS Offset Measurement Protocol (if needed)							X	X	X	X

Investigation Area	**Recommended Measurement Frequency Range**							**Source of Materials**		
Earth as a System	Twice Weekly	Weekly	Monthly	Seasonally	Semi-Annually	Annually	Once Per Site	Print	CD	Web
Budburst Protocol	X					X			X	X
Green-Up Protocol	X					X			X	X
Green-Down Protocol	X					X			X	X
Ruby-throated Hummingbird Protocol	X					X		**	X	X
Lilac Phenology	X					X			X	X
Phenological Gardens	X					X		**	X	X
Seaweed Reproduction Phenology			X	X					X	X
Arctic Bird Migration				X					X	X

** Included only in a separate, limited print run